

-12-

REMARKS

In response to the Office Action mailed on September 26, 2008, Applicant(s) respectfully request(s) reconsideration.

Claims 1, 3-21, 23-28, 30-44 and 46-48 are now pending in this Application.

In this Amendment, claims 1, 15, 21, 28, 40 and 44 have been amended and claim 13 has been cancelled and claims 49-52 have been added.

Claims 1, 15, 21, 28, 40 and 44 are independent claims and the remaining claims are dependent claims. Applicant(s) believe that the claim(s) as presented are in condition for allowance. A notice to this affect is respectfully requested.

The Application was considered informal because the Abstract was not in the proper form. Applicant has amended the Abstract to cure this minor informality. The new, separately attached, substitute Abstract which replaces the originally filed Abstract includes 150 words or less and is separately attached. Accordingly, the application should be considered as formal.

The Office Action states that the title of the invention is not descriptive. Applicant(s) **has/have** amended the title to be "APPARATUS AND METHODS FOR SPEECH RECOGNITION" which is clearly indicative of the invention to which the claims are directed.

The Office Action objects to embedded hyperlinks in the specification. The above amendments correct this deficiency.

The Office Action rejects claims 1, 3-21, 23-28, 30-44 and 46-48 under **35 U.S.C. §102(b)** as being anticipated by Irvin et al., U.S. Publication No. 2002/0072917 (Irvin '917). Applicant(s) respectfully disagree(s) with these contentions and assert that the present claimed invention is not anticipated by any disclosure in the Irvin '917 reference.

Irvin '917 does not recognize search information including both hard constraints and soft constraints. The OA suggests that Irvin anticipates such hard constraints and soft constraints in the rejection of claims 13 and 14, at paragraphs [0021] and [0022]. Irvin, however, discloses an association with a geographical area and the corresponding known telephone numbers, such as area codes, exchanges and country codes. Such a geographic correlation is not an indication of an ability to process both hard constraints and soft constraints as claimed. The present application qualifies hard constraints as limiting the set of expected inputs (i.e. absolutely excluding the possibility of receiving a zero or one in a particular digit position, [0005] and soft constraints as recognizing probabilities of future inputs, as taught in the specification at [0035,0036]. In contrast, Irvin merely computes a probability of a spoken name as matching a previously stored pattern [0026], and does not discriminate hard constraints that limit future input expectations. Thus, in contrast to the claimed system, Irvin does not compute individual digit positions from spoken voice input.

As clarified by Irvin '917 at paragraph [0019], "Voice input 115 comprises a spoken label that the user has previously associated with a telephone number to be dialed. The label may comprise a word, name, phrase, nickname, or other utterance appropriate for the type of speech recognition technology." Irvin does not disclose recognition of individual spoken digit positions of a telephone number, but rather recognition of a label ASSOCIATED WITH a stored telephone number. Therefore, claim 1 has been herein amended with the subject matter of claim 13, to clarify the distinguishing feature of utilizing the associated search information as hard constraints to further clarify Applicant's claimed invention. Nowhere in Irvin '917 are hard constraints shown, taught or disclosed with respect to recognizing incoming speech,

The Office Action suggests that Irvin '917 teaches the subject matter of claim 13. However, the cited sections [0021,0022] of Irvin employ an identified telephone number to identify (map) an associated geographic location, and do not attach a probability or prediction to the content (digits) of the telephone number. Rather, as Fig., 3 clarifies, the telephone number is employed in a distance computation for assessing the spoken NAME. There is no processing

disclosed with respect to a spoken telephone number. Further, Irvin makes no recitation about hard or soft constraints throughout the reference.

Claim 15, rejected on similar grounds, has been amended to clarify that the speech recognition unit utiliz[es] the numbering plan and location as hard constraints for recognizing a telephone number defined by said speech. Further, independent claims 21, 28, 40 and 44, rejected on similar grounds, have been likewise amended.

In other words, Irvin discloses only input of spoken names, not spoken telephone numbers, with respect to matching to a known identifier. In contrast, the claimed system employs known aspects of the local telephone system to constrain the expected input field, as discussed further at [0029], such as expecting a '0' or '1' in the first position and identifying that the next position cannot be a '0' or '1'. While Levin suggests geographic recognition, Levin makes no showing, teaching, or disclosure of applying the identified constraints to the range of expected input for each of the digits of a spoken telephone number. Accordingly, claim 49 has been added, to further clarify that the associated search information identifies hard and soft constraints and the speech recognition unit employs the identified hard constraints for recognizing spoken telephone digits in the incoming speech signal, as taught at paragraphs [0005] and [0035]. As stated above, Irvin '917 makes no showing, teaching, or disclosure of recognition of individual digits.

Claim 50 has been added to clarify the distinguishing feature that the claimed approach determines, based on the determined location, an expected speech pattern indicative of grouping of digits and placement of pauses in the incoming speech signal, and derives the soft constraints limiting the expected entered telephone number, as discussed further in the specification at paragraph [0029].

Claim 51 has been added to refine and clarify that the speech recognition unit applies the identified hard constraints to spoken digit positions in the incoming speech signal to constrain the received spoken telephone digits, as disclosed at [0035].

-15-

Added Claim 52 further clarifies that the speech recognition unit identifies a numbering plan based on the location, and modifies an expected grammar according to the hard constraints defined by the numbering plan, discussed further at paragraph [0037].

As the remaining claims depend, either directly or indirectly, from claims 1, 15, 21, 28, 40 and 44, it is respectfully submitted that all claims in the case are now in condition for allowance.

Applicant(s) hereby petition(s) for any extension of time which is required to maintain the pendency of this case. If there is a fee occasioned by this response, including an extension fee, that is not covered by an enclosed check, please charge any deficiency to Deposit Account No. 50-3735.

If the enclosed papers or fees are considered incomplete, the Patent Office is respectfully requested to contact the undersigned collect at (508) 616-9660, in Westborough, Massachusetts.

Respectfully submitted,

/CJL/

Christopher J. Lutz, Esq.
Attorney for Applicant(s)
Registration No.: 44,883
Chapin Intellectual Property Law, LLC
Westborough Office Park
1700 West Park Drive, Suite 280
Westborough, Massachusetts 01581
Telephone: (508) 616-9660
Facsimile: (508) 616-9661

Attorney Docket No.: NUA08-01
Dated: December 29, 2008
ATTACHMENT: Abstract